

Application Number: 10/604,601 Examiner: Pedro J. Cuevas Art Unit: 2834

April 20, 2005

(Currently amended) CLAIMS

What is claimed is:

Claims 1-18 (Canceled)

19. (Currently amended) A turbine or other apparatus of power generation
5 using means responsive to a motive fluid wherein the fluid intake is implemented
via a gate or penstock which is:

mechanically or electro-mechanically able to instantaneously adjust its physical
orientation in any direction to adapt to changes in the direction of the
streamlines of a free flowing motive fluid;

10 wherein said apparatus is physically secured by a mounting system comprised of
circular bearings in one axis or plural axes commonly implemented as a
gimbal, to provide the ability to instantaneously adjust the physical orientation
of said fluid intake in any direction, to adapt to changes in the direction of said
free flowing motive fluid;

15 wherein the kinetic energy contained in said motive fluid is converted to electrical
potential;

wherein said kinetic energy contained in the motive fluid is converted to electrical
potential by means of a coaxial fluid coupler or impeller directly driving the
rotor of a DC generator, or, directly driving or indirectly driving through a
20 system of gears, an AC induction generator with external voltage rectifiers
producing a direct current output;

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wherein the voltage output of said DC generator or said AC induction generator with external voltage rectifiers is sensed to control a gate which: inhibits flow to reduce the rotational velocity of said coaxial fluid coupler or impeller thus: reducing the forces of gyroscopic precession, so to quicken the response to changes in the direction of the streamlines of a free flowing motive fluid.

20. (Currently amended) A turbine or other apparatus of power generation using means responsive to a motive fluid wherein the fluid intake is implemented via a gate or penstock which is:

mechanically or electro-mechanically able to instantaneously adjust its physical orientation in any direction to adapt to changes in the direction of the streamlines of a free flowing motive fluid;

wherein said apparatus is physically secured by a mounting system comprised of circular bearings in one axis or plural axes commonly implemented as a gimbal, to provide the ability to instantaneously adjust the physical orientation of said fluid intake in any direction, to adapt to changes in the direction of said free flowing motive fluid;

wherein the kinetic energy contained in said motive fluid is converted to electrical potential;

wherein said kinetic energy contained in the motive fluid is converted to electrical potential by means of a coaxial fluid coupler or impeller directly driving the

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rotor of a DC generator; or, directly driving or indirectly driving through a
system of gears, an AC induction generator with external voltage rectifiers
producing a direct current output;

wherein the voltage output of said DC generator or said AC induction generator
with external voltage rectifiers is sensed; to control adjustable interior flow
vanes and adjustable runner blades of the fluid coupler or impeller by
employing; a voltage feedback closed loop so as to; optimize efficiency over a
range of loads and flow velocities.

21. (Currently amended) A turbine or other apparatus of power generation
using means responsive to a motive fluid wherein the fluid intake is implemented
via a gate or penstock which is:
mechanically or electro-mechanically able to instantaneously adjust its physical
orientation in any direction to adapt to changes in the direction of the
streamlines of a free flowing motive fluid;
wherein said apparatus is physically secured by a mounting system comprised of
circular bearings in one axis or plural axes commonly implemented as a
gimbal, to provide the ability to instantaneously adjust the physical orientation
of said fluid intake in any direction, to adapt to changes in the direction of said
free flowing motive fluid;

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wherein the kinetic energy contained in said motive fluid is converted to electrical potential;

wherein said kinetic energy contained in the motive fluid is converted to electrical potential by means of a coaxial fluid coupler or impeller directly driving the rotor of a DC generator; or, directly driving or indirectly driving through a system of gears, an AC induction generator with external voltage rectifiers producing a direct current output;

wherein the voltage output of said DC generator or said AC induction generator with external voltage rectifiers is: electronically voltage and current regulated for: charging any of the presently available varieties of chemistry of battery.

22. (Currently amended) A turbine or other apparatus of power generation using means responsive to a motive fluid wherein the fluid intake is implemented via a gate or penstock which is:

mechanically or electro-mechanically able to instantaneously adjust its physical orientation in any direction to adapt to changes in the direction of the streamlines of a free flowing motive fluid;

wherein said apparatus is physically secured by a mounting system comprised of circular bearings in one axis or plural axes commonly implemented as a gimbal, to provide the ability to instantaneously adjust the physical orientation

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of said fluid intake in any direction, to adapt to changes in the direction of said

free flowing motive fluid;

wherein the kinetic energy contained in said motive fluid is converted to electrical
potential;

5 wherein said kinetic energy contained in the motive fluid is converted to electrical
potential by means of a coaxial fluid coupler or impeller directly driving the
rotor of a DC generator; or, directly driving or indirectly driving through a
system of gears, an AC induction generator with external voltage rectifiers
producing a direct current output;

10 wherein the voltage output of said DC generator is: electronically voltage and
current regulated for driving a: DC motor mechanically coupled to a:
synchronous AC generator with output armature voltage applied directly to
the utility power grid.

Claims 23, 24 (Canceled)

15 25. (Currently amended) A turbine or other apparatus of power generation
using means responsive to a motive fluid wherein the fluid intake is implemented
via a gate or penstock which is:

20 mechanically or electro-mechanically able to instantaneously adjust its physical
orientation in any direction to adapt to changes in the direction of the
streamlines of a free flowing motive fluid;

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wherein said apparatus is physically secured by a mounting system comprised of circular bearings in one axis or plural axes commonly implemented as a gimbal, to provide the ability to instantaneously adjust the physical orientation of said fluid intake in any direction, to adapt to changes in the direction of said free flowing motive fluid;

wherein the kinetic energy contained in said motive fluid is converted to electrical potential;

wherein said kinetic energy contained in the motive fluid is converted to electrical potential by means of a coaxial fluid coupler or impeller directly driving the rotor of a DC generator, or, directly driving or indirectly driving through a system of gears, an AC induction generator with external voltage rectifiers producing a direct current output;

wherein further energy may be extracted by implementing an auxiliary DC generator or AC induction generator with external voltage rectifiers indirectly coupled through a system of gears to one axis or plural axes of said gimbal.

26. (Previously Presented) The apparatus of claim 25 wherein the armature current of said auxiliary DC generator or AC induction generator with external voltage rectifiers may be reversed temporarily once over a long term period so as:

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to use the secondary generator as a motor to affect the orientation of the face area of said fluid intake such that it no longer is orthogonal to the direction of the streamlines; thus:

causing the motive fluid to remove tenacious debris from the face of the intake during a routine self-maintenance period.

Claims 27-30 (Canceled)

31. (Previously Presented) The apparatus of claim 19 wherein said gate is controlled by an electronic microprocessor sensing said voltage output of the DC generator or AC induction generator.

32. (Previously Presented) The apparatus of claim 21 wherein said charging of a battery, including gauging and communicating the fullness of the battery is controlled by an electronic microprocessor.

Claim 33 (Canceled)

34. (Previously Presented) The apparatus of claim 26 wherein said intake physical orientation is controlled by an electronic microprocessor.